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EXAMINER

EUGENE, WANDA

ART UNIT PAPER NUMBER

2666

DATE MAILED: 05/04/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/624,123

Applicant(s)

MAUGER, ROY HAROLD

Examiner

Wanda Eugene

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07/24/2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings were received on 02/09/04. These drawings are accepted.

Specification

2. The abstract of the disclosure is objected to because of improper title placed in abstract. The abstract is to have no title placed within it. Correction is required. See MPEP § 608.01(b).

Claim Objections

3. Claims 1, 2, 10, 11, 18 and 27 are objected to because of the following informalities:

Claim 1, line 1, "comprising" should read --comprising:--

Claim 2, the limitations should be separated by semicolons.

Claim 2, line 3, "said core" should read ---core---

Claim 2, line 6, "nodes within which abstract node any available path may be selected" should read ---nodes in which any available path can be selected---

Claim 6 line 1, "and incorporating" should read ---incorporating---

Claim 7 line 3, "VPNs" should read ---VPNs.---

Claims 10, 11 and 21 are method claims written in the form of apparatus claims, because they are missing functional. Appropriate correction is required.

Claim 18, line 1, "comprising" should read ---comprising:---

Claim 18, all limitations should be separated by semicolons.

Claim 18 line 2, "said core" should read ---core---

Claim 18 lines 5 and 6, "within which abstract nodes any available path may be selected" should read ---in which any available path can be selected---

Claim 21 line 3 and line 11, "said core" should read ---core---

Claim 21 line 5, "comprising" should read ---comprising:---

Claim 21 line 6, "within which any available path may selected" should read ---in which any available path can be selected---

Claim 21 line 10, "a said virtual" should read --- a virtual---

Claim 21 line 16, " defining virtual" should read ---defining said virtual---

Claims 9, 20 and 27 makes reference to a (sub) network. That which is closed within a parenthesis is not considered part of the limitation. Thus, "(sub) network" should read---sub network---

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Claims 1, 3-9, 18-20 and 21-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 previously discussed a multi-service network and a frame-base network thus, the claims recitation of the limitation, "the network further comprising one or more virtual switches for

switching virtual data traffic" lines 4-5, is indefinite as to which network the applicant is intending to reference to at this point.

Claims 3 lines 2-3 and 21 lines 9-10 recite the limitation "first and second real nodes and one or more abstract node" is confusing. The applicant neglects to explain what aspect of the invention is he labeling a real node. It also seems as if the applicants claim 3 is referring to abstract nodes placed in between the before mentioned real nodes.

Claim 18 previously discussed a communication network and a transport network thus the claims recitation of the limitation, "the network incorporation a super-ordinate management function" (line 13), is indefinite as to which network the applicant desires to reference at this point.

6. Claims 10, 11 and 21 provides for the use of communications multi-service network where the claim recites "the method of operating a communication multi-service network, " (line 1) but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced. Claims 10, 11 and 21 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

7. Claim 11 provides for the use of communications multi-service network where the claim recites "the method of operating a frame-mode switching communication multi-service network," (line 1) but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 11 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-7, 10-25 and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Casey (U.S. 6,493,349).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C.

102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37

CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claims 1, 10, 17, and 22 Casey discloses a communications multi-service network (**private networks through one or more shared networks** col. 2 line 67) comprising a plurality of nodes (**VPN routers see** col. 3, lines 2-3) interconnected via quality of service capable tunnels (**tunnel 1 and tunnel 2** fig 2) and incorporating a frame-mode MPLS architecture (**a MPLS based IP VPN area in the backbone** col. 3 lines 36-37) whereby IP services are run directly over a frame-based core network (**using forms of IP VPN technology such as IP over Frame Relay** col. 3 lines 37-38) and legacy services are run over ATM adaptations and emulated ATM services (**LANE** col. 3 lines 39-40, **thus ATM services over a base network that is ATM** col.7 lines 16), the network further comprising one or more virtual switches for switching data traffic (**virtual private network areas, each area including VPN routers see** par. bridging cols. 2-3).

Regarding claims 2, 11 and 23 Casey discloses a frame-mode switching communications multi-service network (**the shared network** col. 6 line 15-19 fig. 3) comprising a plurality of core nodes establishing a transport network (**other nodes** col. 6 line 20-25), and service nodes each coupled to a said core node whereby access to the transport is provided (**VBRs** col. 6 line 20-29 fig. 2), and having a network management system (**ISP**) arranged to define and manage one or more virtual public/private networks (**providers serve as the administering unit for VPNs** col. 6 line 44-56) within said communications network, the method comprising configuring groups of said core nodes (**VRs**) as abstract nodes (**VPNs**) within which any available path may selected

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to achieve a requested connection (**each VR dedicated to a particular BPN has enough information to establish tunnels to all other VRs of that VPN** col. 6 line 57-64), and wherein end to end label switched paths are established via the management system by specifying a series of abstract nodes (**services are provided upon the VPNID and the VBR** col. 7 line 59-67), the method further comprising switching data traffic over one or more virtual switches (**VRs are able to forward all enterprise traffic between all sites in the VPN** col. 8 line 12-13).

Regarding claims 3 and 12, Casey discloses, each path is specified by identifying first and second real nodes and one or more abstract nodes there between (**communication path which traverse VPN tunnels consisting of VBR borders connected to BNN and other nodes which operate as part of the base network** col. 6 line 20-25).

Regarding claims 4 and 13, Casey discloses, a virtual public/private network is defined with multiple stages of first level constraint-based routed label switched paths (**Quality of service allocated to the path formed in MPLS in different VPN areas** col. 3 line 62).

Regarding claims 5 and 14, Casey discloses, each abstract node is defined by an IP address prefix, and all core nodes, which include that prefix in their IP address, are part of that abstract node (**routing exchanges relate only to the IP address space of the private network, the VR within the VBR forwarding control process is performed in relation to that IP address** col. 4 line 29-37).

Regarding claims 6, 15 and 24 Casey discloses, a super-ordinate management function arranged to control creation, modification and deletion of virtual switches (**group of network**

providers come together to offer a combined IP VPN services thus providing modifications and introductions to the virtual switches col. 3 lines 44-47).

Regarding claims 7, 16 and 25 Casey discloses, super-ordinate manager is adapted for defining virtual private/public networks (VPN) and for placing traffic trunks to realize those VPNs (**the MPLS backbone can partition the shared network based upon the IP VPN implementation choices col. 3 lines 31-35).**

Regarding claim 18, Casey discloses, a plurality of core nodes establishing a transport network (**other nodes col. 6 line 20-25**), service nodes each coupled to a said core node to provide access to the transport network (**VBRs col. 6 line 20-29 fig. 2**), and a network management system (**ISP**) arranged to define and manage one or more virtual public/private networks within said communications network (**providers serve as the administering unit for VPNs col. 6 line 44-56**), wherein groups of said core nodes (**VRs**) are configured as abstract nodes (**VPNs**) within which abstract nodes any available path may be selected to achieve a requested connection (**each VR dedicated to a particular BPN has enough information to establish tunnels to all other VRs of that VPN col. 6 line 57-64**), and wherein end to end label switched paths are established via the management system by specifying a series of abstract nodes (**services are provided upon the VPNID and the VBR col. 7 line 59-67**); wherein a said virtual public/private network (VPN) is defined with multiple stages of first level constraint-based routed label switched paths (**Quality of service allocated to the path formed in MPLS in different VPN areas col. 3 line 62**); wherein each said abstract node is defined by an IP address prefix, and all core nodes which include that prefix in their IP address are part of that abstract node (**routing exchanges relate only to the IP address space of the private network, the VR**

within the VBR forwarding control process is performed in relation to that IP address col. 4 line 29-37); the network incorporating a super-ordinate management function arranged to control creation, modification and deletion of virtual switches (group of network providers come together to offer a combined IP VPN services thus providing modifications and introductions to the virtual switches col. 3 lines 44-47); and wherein said super-ordinate manager is adapted for defining virtual private/public networks (VPN) and for placing traffic trunks to realize those VPNs (the MPLS backbone can partition the shared network based upon the IP VPN implementation choices col. 3 lines 31-35).

Regarding claim 21, Casey discloses, a plurality of core nodes establishing a transport network **(other nodes col. 6 line 20-25)**, and service nodes each coupled to a said core node whereby access to the transport is provided **(VBRs col. 6 line 20-29 fig. 2)**, and having a network management system arranged to define and manage one or more virtual public/private networks within said communications network **(providers serve as the administering unit for VPNs col. 6 line 44-56)**, the method comprising configuring groups of said core nodes **(VRs)** as abstract nodes **(VPNs)** within which any available path may selected to achieve a requested connection **(each VR dedicated to a particular BPN has enough information to establish tunnels to all other VRs of that VPN col. 6 line 57-64)**, and wherein end to end label switched paths are established via the management system by specifying a series of abstract nodes **(services are provided upon the VPNID and the VBR col. 7 line 59-67)**; wherein each said path is specified by identifying first and second real nodes and one or more abstract nodes there between **(communication path which traverse VPN tunnels consisting of VBR borders connected to BNN and other nodes which operate as part of the base network col. 6 line 20-25)**; wherein a said virtual public/private network (VPN) is defined with multiple

stages of first level constraint-based routed label switched paths (**Quality of service allocated to the path formed in MPLS in different VPN areas** col. 3 line 62); wherein each said abstract node is defined by an IP address prefix, and all core nodes which include that prefix in their IP address are part of that abstract node (**routing exchanges relate only to the IP address space of the private network, the VR within the VBR forwarding control process is performed in relation to that IP address** col. 4 line 29-37); the method including creation, modification and deletion of virtual switches via a super-ordinate management function switches (**group of network providers come together to offer a combined IP VPN services thus providing modifications and introductions to the virtual switches** col. 3 lines 44-47; and wherein said super-ordinate manager is adapted for defining virtual private/public networks (VPN) and for placing traffic trunks to realize those VPNs (**the MPLS backbone can partition the shared network based upon the IP VPN implementation choices** col. 3 lines 31-35).

Regarding claim 28, Casey discloses a communication network as a MPLS network (**the provider may have MPLS in the backbone** col. 3 line 34).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 8, 9, 26 and 27 rejected under 35 U.S.C. 103(a) as being obvious over Casey (U.S. 6,493,349) in view of Hughes et al. (U.S. 6,434,612).

Regarding claims 8 and 26 Casey discloses all the limitations of claim 1 through 7. Casey does not disclose a subordinate management function arranged to provide virtual switch management. Hughes et al. (U.S. 6,434,612) discloses a controller functioning to control a virtual switch col.6 line 52-53. The controllers manages connection segment synchronization with the corresponding switches (col. 9 line 53). It would have obvious to one of ordinary skill in the art at the time the invention was made to modify Casey as suggested by Hughes et al. in order to administer the functions and services of the switches.

Regarding claim 9 and 27 Casey discloses, a sub network manager is responsible for constructing an abstract node information model representation of the network, which it passes to a super-ordinate manager (**consortium must configure VBRs to realize the desired VPN** col. 5 line 32-35).

Response to Arguments

12. Applicant's arguments with respect to claims 1-27 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wanda Eugene whose telephone number is 703-305-8978. The examiner can normally be reached on M-F 7am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Q Ngo can be reached on 703-305-4798. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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RICKY NGO
PRIMARY EXAMINER